

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of automatically locating a table in a document, the method comprising the steps of:

defining a plurality of crops of the document where at least one crop corresponds to a corner of the document;

for each crop of the document, determining the location of lines whose length is greater than or equal to a predetermined threshold value;

evaluating at least one parameter indicative of the density of said lines; and

deciding, based on said at least one evaluated parameter, which one of said plurality of crops includes the location of said table.

2. (Original) The automatic table-locating method of claim 1, wherein the document is a technical drawing.

3. (Original) The automatic title-block locating method of claim 2, wherein said plurality of crops correspond to respective corners of the document.

4. (Original) The automatic table-locating method of claim 1, wherein:

the evaluating step includes defining groups of said lines, two or more adjacent lines being allocated to a common group if a separation between adjacent ones of said two or more lines is less than a reference value; and

wherein the deciding step includes the step of evaluating at least one parameter of the groups of lines defined for the different crops.

5. (Original) The automatic table-locating method of claim 2, wherein:

the evaluating step includes defining groups of said lines, two or more adjacent lines being allocated to a common group if a separation between adjacent ones of said two or more lines is less than a reference value; and

wherein the deciding step includes the step of evaluating at least one parameter of the groups of lines defined for the different crops.

6. (Original) The automatic table-locating method of claim 4, wherein the deciding step includes the steps of:

for each crop, evaluating the number of said lines in each group and performing a validation test on the group;

for each crop, designating, as a representative group, the group having the greatest number of lines and passing the validation test; and

selecting one of the crops as having the location of the table, the selected crop including the representative group having the greatest number of lines.

7. (Currently Amended) AThe automatic table-locating method of automatically locating a table in a document, the method comprising the steps of: of claim 6,

defining a plurality of crops of the document;

for each crop of the document, determining the location of lines whose length is greater than or equal to a predetermined threshold value;

evaluating at least one parameter indicative of the density of said lines; and

deciding, based on said at least one evaluated parameter, which one of said plurality of crops includes the location of said table,

wherein the evaluating step includes defining groups of said lines, two or more adjacent lines being allocated to a common group if a separation between adjacent ones of said two or more lines is less than a reference value;

wherein the deciding step includes:

evaluating at least one parameter of the groups of lines defined for the different crops,

for each crop, evaluating the number of said lines in each group and performing a validation test on the group,

for each crop, designating, as a representative group, the group having the greatest number of lines and passing the validation test, and

selecting one of the crops as having the location of the table, the selected crop including the representative group having the greatest number of lines; and

wherein the performing step comprises the step of evaluating a distance of the group from a border on the document.

8. (Original) The automatic table-locating method of claim 6, wherein the performing step comprises the step of evaluating a separation between adjacent lines within the group.

9. (Original) The automatic table-locating method of claim 7, wherein the performing step comprises the step of evaluating a separation between adjacent lines within the group.

10. (Original) The automatic table-locating method of claim 7, further comprising the step of evaluating a sum of thicknesses of said lines for each crop; and wherein, in the event that there is no crop having a representative group with the greatest number of lines, the deciding step includes the steps of:

determining whether there is a crop having an evaluated thickness sum that is significantly greater than a corresponding evaluated thickness sum for the other crops; and

if so, designating that crop as the location of the table and, if not, generating a signal indicative of failure to locate the table.

11. (Currently Amended) ~~The automatic table-locating method of claim 8,~~ A method of automatically locating a table in a document, the method comprising the steps of:

defining a plurality of crops of the document;

for each crop of the document, determining the location of lines whose length is greater than or equal to a predetermined threshold value;

evaluating at least one parameter indicative of the density of said lines; and

deciding, based on said at least one evaluated parameter, which one of said plurality of crops includes the location of said table.

wherein the evaluating step includes defining groups of said lines, two or more adjacent lines being allocated to a common group if a separation between adjacent ones of said two or more lines is less than a reference value;

wherein the deciding step includes:

evaluating at least one parameter of the groups of lines defined for the different crops,

for each crop, evaluating the number of said lines in each group and performing a validation test on the group,

for each crop, designating, as a representative group, the group having the greatest number of lines and passing the validation test, and

selecting one of the crops as having the location of the table, the selected crop including the representative group having the greatest number of lines;

wherein the performing step comprises the step of evaluating a separation between adjacent lines within the group; and

wherein the method further comprisesing the step of evaluating a sum of thicknesses of said lines for each crop; and wherein, in the event that there is no crop having a representative group with the greatest number of lines, the deciding step includes the steps of:

determining whether there is a crop having an evaluated thickness sum that is significantly greater than a corresponding evaluated thickness sum for the other crops; and

if so, designating that crop as the location of the table and, if not, generating a signal indicative of failure to locate the table.

12. (Original) The automatic table-locating method of claim 1, further comprising a preliminary step of verifying the format of the document to be analysed.

13. (Currently Amended) ~~The automatic table-locating method of claim 1,~~ A method of automatically locating a table in a document, the method comprising the steps of:

defining a plurality of crops of the document;

for each crop of the document, determining the location of lines whose length is greater than or equal to a predetermined threshold value;

evaluating at least one parameter indicative of the density of said lines;

deciding, based on said at least one evaluated parameter, which one of said plurality of crops includes the location of said table; and

~~further comprising the step of determining the location of a frame present on the document and defining a border on the document.~~

14. (Original) The automatic table-locating method of claim 1, wherein the document is an image of a document produced at a reduced resolution.

15. (Original) The automatic table-locating method of claim 1, wherein the document is a scanned image of a document, and the method further comprises the step of deskewing the scanned image before applying the method.

16. (Currently Amended) An Apparatus for automatically locating a table in a document by application of the method according to claim 1.

17. (New) The apparatus of claim 16, wherein said plurality of crops correspond to respective corners of the document.

18. (New) An apparatus for automatically locating a table in a document by application of the method according to claim 7.

19. (New) An apparatus for automatically locating a table in a document by application of the method according to claim 11.

20. (New) An apparatus for automatically locating a table in a document by application of the method according to claim 13.